UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

April 29, 2003

Reply To
Attn Of: ECL-112

Commander, Ft. Lewis *(sent via e-mail and regular mail)*
Directorate of Public Works
ATTN: AFZH-DEQ MS 17 (Mr. Eric Waehling)
Building 2012, Room 323
Ft. Lewis, WA 98433-9500

Subject: Camp Bonneville Draft Work Plan for Interim Actions at Small Arms Range Berms and Fire Support Areas dated 3/31/2003 (received 4/10/2003)

Dear Eric:

Thank you for the opportunity to review the subject document. Please see the enclosed EPA comments. Please contact me at (206) 553-1220 or at sheldrake.sean@epa.gov with any questions or concerns.

Sincerely,

Sean Sheldrake, Project Manager

Enclosure

cc: Ben Forson, Ecology *sent via e-mail only*
Brian Vincent, Clark County ""
Karen Kingston, RAB co-chair ""

Enclosure

EPA comments on Draft Work Plan for Interim Actions at Small Arms Range Berms and Fire Support Areas, dated 3/31/2003

General

1. The subject document does not refer to CERCLA or specifically state any applicable, relevant or appropriate regulations (ARARs) which a federal cleanup action must comply with. Without listing these, it is unclear what regulations the Army believes guides the cleanup process, as only MTCA is referenced in the document. Although MTCA is certainly an ARAR for this federal cleanup activity, there are a number of other state, federal, and local laws which are applicable, which should be referenced here. Please list ARARs (page 10) which the Army intends to comply with (see 2/4/2003 letter from Mr. Sheldrake to Mr. Waehling for EPA listing of ARARs).
2. The subject document is not an action memorandum nor does it meet the requirements of a federal cleanup decision document. Please refer to the letter from Mr. Sheldrake to Mr. Waehling dated February 6, 2003. A determination needs to be made as to whether this action is a time-critical or non-time critical action such that pertinent public involvement provisions of CERCLA may be complied with, in addition to (rather than instead of) those required by MTCA. Again, this is a federal cleanup action, whether carried out by the Army or County since federal dollars are being utilized; the more stringent of applicable federal, state, and local regulation must be complied with.
3. It is unclear why the Army has decided to take this early action and yet deliberately not conduct the most complete cleanup possible by removing lead and other contaminants of potential concern during the concurrent effort, thus incurring at least two mobilization events. This should be explained further in the decision document referenced above.
4. As noted on previous plans, this proposed work plan and sampling and analysis plan does not comply with standard EPA quality assurance/quality control requirements. For example, the data quality objectives and rational for the number of samples chosen for this project, number and existence of confirmation samples after excavations, and confirmation samples to verify the field method are missing. Also, the rational for the number and type of samples collected for characterizations of soil piles is missing. In addition, the referenced Quality Assurance Project Plan (QAPP) was reviewed by EPA in February 2003, however, the comments were not incorporated into a new QAPP and are not reflected in this area-specific work plan and sampling and analysis plan.

Specific

5. Section 2.5, Page 6, First Paragraph. In describing corrective actions to be implemented if changes to the Work Plan or Sampling Plan are determined to be necessary there is no discussion of any regulatory agency notification prior to making changes in the proposed activities. Please include a statement in the text that indicates that agency representatives (e.g. Ecology contact name and phone number) will be notified of any proposed changes to the Work or Sampling Plans.
6. Section 4.2.2, Page 11, First Sentence. The text states that the "excavation of the front 4 feet of each berm..." and in the next sentence that "The 25 Meter Range (Berm 1) will be completely removed." However, in the next paragraph, the text again states "...the front 4-feet of each berm...." Description of the proposed excavation activities should be consistent

throughout the Work Plan which, for instance in section 6, describes the berm excavations as being conducted in 2-foot excavation lifts.

7. Section 4.4, Page 13. This section includes the Data Quality Objectives (DQOs), however, while the text states that a DQO process has been used, it does not include the seven step process in the text (nor in the referenced QAPP). DQO's should be developed in order to determine the type, location, and number of samples which need to be collected based on the probability of finding hot spots of lead near the target areas and points of fire. Please include the seven step DQO process to provide the rationale for sample location and quantity as outlined in *Guidance for the Data Quality Objectives Process, EPA QA/G-4.*

8. Page 15. Confirmation sampling should be conducted after removal of soil from fire support areas; this information would be used as a guide for the need for further removal action. As stated above, it would be far more cost effective to remove soil down to a final cleanup standard in one rather than in multiple efforts.

9. Considering the heterogeneity of the bullet concentrations around the target areas and the subsequent heterogeneity of lead contaminant concentrations that will be present in the soil, the proposed sampling interval of 20-feet is not adequate. Precise locations of the historic target areas are not known and may have been moved several times over the active life of each firing range. In order to demonstrate characterization of the lead concentrations in the berm face soils, a sampling interval of five feet is recommended. This interval could then be relaxed if soil samples were within an within a WP approved RPD.

10. Section 5.2, Page 18. In order to determine the number of samples that will be collected per stock pile of known size, please include the total maximum area (in yards) of each stock pile and how many samples will be collected per stock pile. In addition, stock piles should not be combined, in order to have a consistent sampling protocol (number and type of samples) per known volume of stock pile.

11. Page 19. What confirmational sampling will occur for soil residues on gravel and vegetation (e.g. root balls)? These materials are likely more highly contaminated than soils due to preferential adherence of fine (ASTM #60 mesh and finer) particles and should be characterized along with soil for potential disposal/treatment and disposal requirements.

12. Section 6.0, Figure 6-1. The proposed sample collection frequency and pattern shown in this figure results in an interval of 60-feet between sample locations at the same height across the face of the berm. The proposed 60-foot interval will not produce a sufficient number of soil samples to accurately characterize the lead concentrations across the face of the berm. This should be increased to a 20-foot interval, at a minimum.

13. The Work Plan is confusing due to inconsistencies in the text describing the dimensions of the soil removal lifts. For example, in Section 4.0 and 5.2, the first lift of soil removed from the face of the berms is described as 4-feet while in the XRF addendum that supplements Section 6 the text states that the lifts will be 2- feet in thickness. The text should be modified to be consistent throughout in describing the proposed field activities.

14. Section 6.5, Page 29. This quality assurance/ quality control (QA/QC) section only includes the criteria for duplicate samples. Please include other QA/QC criteria, such as the frequency of collecting matrix spike samples and blank samples, or provide a reference to another quality assurance project plan which this information can be found.

15. **XRF Field Analysis During Berm Removal Interim Actions, Amendment to Section 6.0 of the Work Plan for Interim Actions at Small Arms Range Berms and Fire Support Areas**. This section is missing the standard operating procedure and site-specific protocols for analysis necessary to use an XRF at Camp Bonneville. The Amendment to Section 6.0 is an outline that does not address the quality control criteria that will be used in the field and, therefore, the resulting data will be invalid. While, the comments below address some

of the elements that should be included in an SOP for this field screening analysis, they do not cover every aspect that is needed to ensure quality analysis in the field.

16. Confirmation samples need to be collected concurrent with any field analytical method in order to verify that the method is operating correctly and to ensure that interferences are not causing false positive or negative results. At least 10% of the samples collected for field analysis should be confirmed with laboratory analysis. Please revise the text to include the collection and analysis of confirmation samples into this SAP.

17. Calibration of the XRF field analysis should be done at the Camp Bonneville site using site-specific calibration standards, in order to ensure reproducible results and reduce the chemical matrix effects. The site-specific concentrations of metals in soils could cause variations in the data if a calibration has not been done using site-specific soils. Please include a description of instrument calibration methods in this section and locations of background sample collection. Reference: *Region 1, EPA-New England Standard Operating Procedure for Elemental Analysis Using the X-met 920 Field X-Ray Fluorescence Analyzer, Quality Assurance Unit Staff Office of Environmental Measurement and Evaluation, dated 1996.*

18. Please indicate in this section that samples will be properly dried before analysis as indicated in the XRF user guide or cite an appropriate manufacturer or user specific calibration curve which demonstrates a percent error vs. percent moisture correlation which would guide the need for sample drying.

19. The use of field screening techniques to minimize laboratory analysis should include assurances of the quality of the data being generated. This includes trained personnel proficient and experienced in the particular screening technique as well as in the collection of confirmation samples which will be sent to an analytical laboratory. Please include the qualifications of the personnel who will perform the XRF analysis and specify what the acceptable correlation criteria of the screening verses the laboratory data will be.

20. Performance evaluation samples should be submitted for analysis on the XRF and to the fixed laboratory performing the EPA SW846 Method 6020 at the start of the project before actual samples are analyzed, to provide information on the quality of the individual data package and to facilitate data validation. Reference: *Region 1, EPA-New England Standard Operating Procedure For Elemental Analysis Using the X-met 920 Field X-Ray Fluorescence Analyzer, Quality Assurance Unit Staff Office of Environmental Measurement and Evaluation, dated 1996.*

21. The proposed sample collection strategy and field screening frequency and pattern across the berm faces is not sufficient to characterize the soils for the presence of lead. The proposed sampling pattern will result in a single soil sample being collected in a 40-foot interval at mid-height across the berm face. Considering the heterogeneous nature of the lead concentrations that will be found in the berm soil, samples should be collected and field screened using XRF analysis at an interval of every 5-feet across the berm face to demonstrate that the sample concentrations are representative of the contaminants present in soil. If sampling at this interval shows heterogenous lead concentration, relaxation of the frequency of sampling to every 40 feet may be appropriate.

22. The assumption that there will be low concentrations of lead along the top and sides of the berms should be verified using XRF analysis instead of simply not collecting samples as proposed.

23. The XRF Field Analysis plan does not specify the number of field analysis results in excess of 50 mg/kg that will trigger additional 2-foot soil lifts. Please include additional details and specify how the XRF data will be used to guide the excavation activities.